



### *Echinolaena inflexa* grass for ruminant production

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The Cerrado is the second largest Brazilian biome and considered the most diverse savanna in the world. However, with the expansion of agricultural activities, serious negative environmental impacts caused irreversible losses in all this unique ecosystem. The aim of this work is to evaluate the viability of using a native forage *Echinolaena inflexa* (Capim Flexinha) for ruminant nutrition. Two forages *Echinolaena inflexa* and *Brachiaria brizantha* cv. Marandu (control) were evaluated during a crop year including wet and dry seasons. The harvest was performed according to the physiological recommendations for pasture management for both forages. Herbage mass, chemical composition (dry matter - DM, crude protein - CP, neutral detergent fibre - NDF, acid detergent fibre - ADF, hemicellulose - HCEL, neutral detergent insoluble protein - NDIN, acid detergent insoluble protein - ADIN, total carbohydrates - CT, non-fibre carbohydrates - CNF, ether extract - EE and ash) and *in vitro* digestion kinetics and dry matter digestibility (IVDMD) were evaluated in a completely randomized design. The Anderson-Darling test was applied to verify the normality of the data. The analysis of variance using Tukey post test was also performed for all data ( $\alpha = 0.05$ ). The *E. inflexa* presented the similar productivity (939.3 and 809.8 DM/hectare in the rainy and dry season respectively) during the two seasons evaluated but lower than *B. brizantha* (2444.8 and 971.9 DM/hectare). The chemical analysis of *E. inflexa* showed high levels of CP compared with *B. brizantha* in the two evaluated seasons (75.3 and 73.5; 60.3 and 33.5 g/Kg of DM for *E. inflexa* and *B. brizantha*). The ADIN levels (12.5 and 8.7 g/Kg of DM) and NIDN (47.1 and 40.1 g/Kg of DM) were also higher for *E. inflexa* compared to *B. brizantha* (6.9 and 3.5 for ADIN; 21.4 and 10.8 g/Kg of DM for NIDN). The content of NDF (714.4 and 749.5 g/Kg of DM) and ADF (396.0 and 419.0 g/Kg of DM) of *E. inflexa* were also significantly higher compared with *B. brizantha* in both seasons (673.0 and 675.1 for NDF; 335.5 and 351.4 for ADF). The *in vitro* gas production and IVDMD of *E. inflexa* were directly associated with the chemical composition, which suggest a lower digestibility of *E. inflexa* in relation to *B. brizantha*. The results demonstrate that *E. inflexa* has potential to be used for ruminant nutrition. Although the nutritional parameters presented by *E. inflexa* have suggested lower quality in relation to *B. brizantha*. Therefore future studies including forage management could promote an adequate use of *E. inflexa* and consequently possible reduction of the anthropogenic effects on the Cerrado biome.

**Keywords:** Native grass, Cerrado, ruminants, chemical composition, volatile fatty acids, methane

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